

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Customer No	:	26874	Confirmation No.	
Applicant	:	Mancisidor et al.		
Serial No.	:	09/909,250	Art Unit:	3689
Filed	:	July 19, 2001	Examiner:	Gerardo Araque, Jr.
For	:	EXPERT SYSTEM SUPPORTED INTERACTIVE PRODUCT SELECTION AND RECOMMENDATION		

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This Appeal Brief is in support of the Notice of Appeal filed on August 26, 2008.

APPEAL BRIEF
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I. Real Party in Interest

The real party in interest for the present application is Convergys CMG Utah, the assignee of record, which is a wholly owned subsidiary of Convergys Corporation. The assignment to CMG Utah was executed on July 10, 2007 and recorded August 3, 2007, on Reel/Frame 019640/0436.

II. Related Appeals and Interferences

There are no prior or pending appeals, judicial proceedings or interferences known to the appellants which are related to, directly affect, may be directly affected by, or may have a bearing on the Board's decision in the pending appeal.

III. Status of Claims

Claims 1-8, 41-46, 51, and 66-82 stand rejected, are the subject of the present appeal, and are set forth in the Appendix to this appeal brief.

IV. Status of Amendments

There have been no amendments to the claims or specification filed after the final rejection.

V. Summary of the Claimed Subject Matter

In general terms, the appellants' disclosure relates to an invention which allows the abilities of an expert system to replace those of a highly skilled value added reseller in making selections and recommendations for a customer. One technique for achieving this is through the presentation of multiple alternative solutions, which can provide perspective on why a certain solution is recommended, while a different solution was not. Specific claims in the pending application are directed to presenting various types of solutions (e.g., a recommended solution, a compatible solution, and a not recommended solution) in various manners (e.g., to a live agent via a graphical user interface). A concise explanation of the subject matter claimed in each independent claim, with references to the specification by page and line number, and references to the drawings by reference characters, is set forth below. There are no independent claims or separately argued dependent claims which include limitations set forth in means plus function form.

Independent claim 1 recites a method for recommending a product using a computer implemented expert system. The method comprises utilizing the expert system to determine problem domain information via interaction between a live human agent and a customer.¹ The method also comprises utilizing the expert system to determine need information of the customer via interaction between the live human agent and the customer, wherein the need information relates to telecommunications needs of the customer.² The live human agent also plays a part in the method of claim 1, as claim 1 recites the step of inputting the customer need information into the expert system, where the act of inputting the customer need information is performed by the live human agent. With the customer need information inputted, claim 1 recites transforming the customer need information into a trait, with the trait being characteristic of a telecommunications product of relevance to the customer, and selected from a plurality of available

¹ Depicted as elements 310 and 410 in, respectively, figures 3 and 4. Also discussed in the specification at page 11, lines 16-20, and page 22, line 5 – page 23, line 18.

² As set forth in the specification (page 23, lines 8-10), this can be performed cooperatively with the problem domain determination addressed previously. Determining need information is also depicted as elements 320, 420 and 613 from figures 3, 4 and 6. In the text, the need determination, as well as inputting the need determination into

telecommunications products.³ The method of claim 1 also includes the expert system calculating a rating of at least three telecommunications products within the plurality of available telecommunications products.⁴ Finally, the last step in claim 1 recites presenting an output comprising a recommended solution, a compatible solution, and a not recommended solution, wherein the solutions are alternative solutions selected from the plurality of available telecommunications products by the expert system, and wherein the output itself is generated by the expert system.⁵

Independent claim 41 is directed to an expert system operable for recommending a product. Claim 41 recites a computer network,⁶ a live human agent interface,⁷ a product database,⁸ and an expert system.⁹ In claim 41, the live human agent interface is communicatively coupled to the computer network,¹⁰ and comprises a graphical user interface.¹¹

the expert system is discussed at lines 5-20 of page 22, line 5 of page 23 – line 19 of page 24, lines 3-6 of page 28, as well as lines 9-11 of page 6 and lines 20-22 of page 11.

³ Transforming the customer need information into traits is depicted as element 330 in figure 3, and is described in, among other places, line 22 of page 11-line 11 of page 12.

⁴ Calculating a rating for at least three telecommunication products is also described in various portions of the application. The most detailed discussion of rating calculation is set forth between line 10 of page 12 and line 4 of page 18. That the rating calculation includes the rating of at least three telecommunication products is shown by the discussion of presenting at least three solutions, a recommended solution, a compatible solution, and a not recommended solution, which is found in (among other places) lines 15-19 of page 28. In the drawings, the rating calculation is shown in element 340 of figure 3, element 440 in figure 4, and element 531 of figure 5. It should be noted that while this calculation is discussed in some detail in the specification, the claims are not limited to the specific calculation disclosed.

⁵ This presenting output is shown in a variety of places, including element 450 of figure 4, and element 615 of figure 6. Textually, the output is described in the corresponding portions of the specification (page 25, lines 9-14; page 28, line 15 – page 29, line 18) as well as lines 11-16 of page 6.

⁶ The network is depicted as elements 180 and 270 in figures 1 and 2, respectively. The computer network and its communicative couplings are described in various portions of the specification, including lines 9-17 of page 18 and line 19 of page – line 12 of page 21.

⁷ A live agent interface is depicted in figure 2 as element 290, in figure 6 as element 610, and in figure 7 as element 710. The interface is discussed in the accompanying portions of the specification (Page 20, line 18-page 21, line 4; page 28, line 15 – page 29, line 6; page 30, lines 3-12) as well as between line 20 of page 6 and line 15 of page 7.

⁸ The product database is depicted as elements 130, 230, and 830 in figures 1, 2, and 8, respectively. It is discussed in the accompanying portions of the specification (page 18, lines 13-17; page 21, lines 13-22; page 30, line 22 – page 31, line 7) as well as between line 20 of page 6 and line 3 of page 7.

⁹ An expert system is depicted as element 131 in figure 1, element 231 in figure 2, element 431 in figure 4, element 1010 in figure 10, and element 1110 in figure 11. In the text, the expert system is addressed in the corresponding portions of the specification (page 18, line 18 – page 19, line 16; page 20, line 3 – page 22, line 4; page 23, line 5 – 25, line 17; page 34, lines 12 – 18; page 34, line 19 – page 35, line 16). However, given the nature of the invention, the expert system and its use and operation suffices virtually the entire disclosure.

¹⁰ This coupling is depicted in figure 2 as the connection between elements 270 and 290, and is described in the corresponding portion of the specification (page 20, lines 11-21).

The product database is also communicatively coupled to the computer network,¹² and is also communicatively coupled to a plurality of providers of available telecommunications products,¹³ thereby allowing the product database to be updated in real time.¹⁴ The expert system is communicatively coupled to the computer network,¹⁵ and is operable to rate at least two telecommunications products using dynamic calculation and based on a customer need.¹⁶ Further, claim 41 recites that the expert system comprises computer executable instructions which allow a live human agent to perform selection of an available telecommunications product from the product database based on the rating of at least two available telecommunications products during an interaction with a customer.¹⁷ Claim 41 also recites that the expert system generates output comprising a recommended solution and a compatible solution, and presents that output to the live human agent via a graphical user interface.¹⁸ In claim 41, the recommended and compatible solutions are alternative solutions, and the rating of the

¹¹ The agent interface as a graphical user interface is depicted as elements 610 and 710 in, respectively, figures 6 and 7. As mentioned previously (note 7), the interface is discussed in the text at the corresponding portions of the specification (line 15 – page 29, line 6; page 30, lines 3-12).

¹² The product database is shown communicatively coupled to the computer network in figure 1 as the connection between elements 130 and 180. This is shown in figure 2 as the connection between elements 230 and 270 (via internet, 280). This is shown in figure 8 as the connection between elements 830 and 880. In the text, this is described in the corresponding portions of the specification (page 18, lines 13-17; page 21, line 13 – page 22, line 4; page 30, line 22 – page 31, line 7).

¹³ The coupling between the database and the service providers is shown in figure 1 as the connection between elements 130 and 132, and in figure 2 as the connection between elements 230 and 232. In the text, this communicative coupling is disclosed in the discussion of those figures (page 18, lines 13-17; page 21, line 13 – page 22, line 12) and is also addressed at length in the discussion of figure 8 (page 30, line 22 – page 32, line 7).

¹⁴ One embodiment of time updating is addressed and explained in detail in figure 8 and the accompanying text (page 30, line 22 – page 32, line 7). It should be noted however, that real time updating is not limited to the specific approach depicted in figure 8 and explained in the text accompanying that figure.

¹⁵ The communicative coupling between the expert system and the computer network is depicted in figure 1 as the link between elements 131 and 180, and in figure 2 as the link between elements 231 and 270. The use of networks to access the expert system is discussed in the specification at (among other places) page 18, line 18 – page 19, line 16 and page 20, line 11 – page 21, line 12.

¹⁶ This expert system calculation is discussed in detail between line 10 of page 12 and line 4 of page 18. In the pictures, dynamic calculation is depicted on the connection between elements 620 and 618, though no element number is given for the dynamic calculation itself.

¹⁷ This is disclosed in at least the discussion of providing a rating summary to a human agent for use in a real time customer interaction, an example of which can be found between line 14 of page 22 and line 3 of page 23.

¹⁸ An output comprising multiple alternative solutions and presented to the live human agent via a graphical user interface is depicted in figure 6 and element 615, and described in the text in the accompanying portions of the specification (page 28, line 15 – page 29, line 18) as well as in the disclosure of the summary in lines 9-15 of page 6.

recommended solution is higher than the rating of the compatible solution.¹⁹ Finally, claim 41 specifies that the recommended solution and the compatible solution are communicated to the customer in real time after the expert system generates the output.²⁰

Independent claim 46 is directed to a plurality of software instructions stored on a media that, upon execution by a processing circuitry, are operable to recommend a product using an expert system. Claim 46 recites certain operations and functions which are performed when sets of instructions from the plurality of instructions are executed by the processing circuitry. Those functions include: (1) determining problem domain information during an interaction between a live human agent and a customer;²¹ (2) determining need information of the customer during the interaction between the live human agent and the customer;²² (3) inputting the customer need information into the expert system; (4) transforming the customer need information into a trait;²³ (5) rating a product within a plurality of available products using the expert system;²⁴ and, (6) presenting an output to the live human agent, where the output comprises a recommended solution and a not recommended solution, and where the recommended solution and the not recommended solution comprise alternative products selected from the plurality of available products.²⁵ Claim 46 also specifically recites that the problem domain and need information determined by the instructions are both related to a telecommunication network configuration.

¹⁹ The presentation of a recommended solution having a rating higher than the compatible solution is disclosed in, among other places, the discussion of the rating summary in lines 10-15 of page 12.

²⁰ This real time communication is disclosed in, among other places, the discussion of a real time interaction where an agent uses a compatible solution to provide a more educated recommendation to the customer (page 22, line 14 – page 23, line 4).

²¹ Depicted as elements 310 and 410 in figures 3 and 4, respectively. In the text, this is discussed in page 11, lines 16-20, as well as the portions of the specification corresponding to figures 3 and 4 (page 22, line 5 – page 23, line 18).

²² Determining need information can be performed cooperatively with determining problem domain information (see page 23, lines 8-10). The need information is depicted at elements 320, 420 and 613 from figures 3, 4 and 6. This need determination, as well as inputting the need information into the expert system, is discussed in the corresponding portions of the specification (page 22, lines 5-20; page 23, line 5 – page 24, line 19; page 28, lines 3-6) as well as in lines 9-11 of page 6, and lines 20-22 of page 11.

²³ Transforming the customer need information into traits is depicted as element 330 in figure 3, and is described in, among other places, line 22 of page 11-line 11 of page 12.

²⁴ Calculating a rating for a telecommunication product is also described in various portions of the application. The most detailed discussion of rating calculation is set forth between line 10 of page 12, and line 4 of page 18. In the drawings, the rating calculation is shown as element 340 of figure 3, element 440 in figure 4, and element 531 of figure 5.

Similarly, claim 46 states that the product rated by the execution of the instructions by the processing circuitry comprises a telecommunications network configuration.²⁶

Claim 51 is directed to a plurality of software instructions stored on a media that, upon execution by a processing circuitry, are operable to recommend a telecommunications network configuration. Claim 51 specifies that those instructions include various sets of instructions which, when executed by the processing circuitry, achieve certain functions. Those functions include: (1) performing expert system processing to rate at least two products within a plurality of available products using dynamic calculation and based on a customer need;²⁷ (2) enabling a live human agent to respond to a communication of a customer need by accessing the functionality of the expert system processing via a graphical user interface to perform selection of an available product from a product database based on the rating of the products in real time during an interaction with a customer;²⁸ (3) generating output comprising a recommended solution and a compatible solution, and presenting that output to the live human agent via the graphical interface;²⁹ and, (4) prompting the live human agent with the recommended solution comprising a network configuration and the compatible solution to be communicated to the customer in real time.³⁰ Claim 51 also specifies that the recommended solution and compatible solution are alternative solutions selected from the plurality of products in a products database, and that the recommended solution has a rating that is higher than the compatible solution.³¹

²⁶ This is disclosed in a variety of places, including element 450 of figure 4, element 615 of figure 6, the accompanying portions of the specification (lines 9-14 of page 25; line 15 of page 28 – line 18 of page 29) and lines 11-16 of page 6.

²⁷ The connection to a telecommunication network configuration is disclosed in various locations, including the summary of the invention at lines 1-6 of page 8.

²⁸ This dynamic calculation is depicted in figure 6, on the connection between elements 620 and 618, though no element number is given for the dynamic calculation itself. Textually, the most detailed discussion of using expert system processing to rate products such as recited in the claim is set forth between line 10 of page 12 and line 4 of page 18.

²⁹ This is disclosed in at least the discussion of providing a rating summary to the human agent for use in a real time customer interaction (e.g., page 22, line 14 – page 23, line 3).

³⁰ Generating an output comprising multiple alternative solutions, and presenting that output to the live agent via the graphical user interface is depicted in figure 6, as element 615, and is described in the accompanying text (page 28, line 15 – page 29, line 18), as well as in the disclosure of the summary at lines 9-15 of page 6.

³¹ This is disclosed in at least the discussion of using the expert system during a real time customer interaction set forth between line 14 of page 22 and line 3 of page 23.

³² The presentation of a recommended solution having a rating higher than the compatible solution is disclosed in, among other places, the discussion of the rating summary in lines 10-15 of page 12.

Claim 51 further recites that the rated products comprise a telecommunications network configuration.³²

Independent claim 68 recites a method for providing a network configuration solution to a customer. The first step recited in the method of claim 68 is to utilize an expert system to obtain information from a customer regarding product needs of the customer via interaction between a live human agent and the customer.³³ Claim 68 also recites presenting an interface allowing the live human agent to enter the information into a computer system, where the computer system comprises the expert system.³⁴ Once the information is entered, it is processed by the expert system.³⁵ This leads to the production of at least three product solutions. Claim 68 recites that three product solutions are produced by the expert system in accordance with the entered and processed information. Claim 68 also recites that the product solutions comprise a recommended solution, a compatible solution, and a not recommended solution, and that each of those solutions are alternative solutions.³⁶ With the solutions having been produced, claim 68 recites presenting those solutions to the live human agent, wherein the presenting the solutions is performed by the computer system. The live human agent, in turn, presents at least a portion of the produced solutions to the customer.³⁷

³² The connection to a telecommunication network configuration is disclosed in various locations, including the summary of the invention at lines 1-6 of page 8.

³³ Using an expert system to obtain information regarding product needs is depicted as element 320 in figure 3.

³⁴ Obtaining such need information, and providing an interface which allows a live human agent to enter it into the computer system is described in the text in various places, including lines 9-11 of page 6, lines 14-16 of page 22, and line 19 of page 23 – line 6 of page 24.

³⁵ The processing of need information by an expert system is disclosed in the discussion of fuzzy logic processing, set forth between line 10 of page 12 and line 4 of page 18.

³⁶ Producing at least three product solutions comprising a recommended solution, a compatible solution, and a not recommended solution is disclosed in at least the discussion of displaying those solutions as output to the live agent (*e.g.*, page 28, lines 15-16; figure 6, element 615).

³⁷ Presenting a portion of the solutions to a customer is disclosed in at least the discussion of utilizing the expert system to provide recommendations to the customer, set forth between line 15 of page 28 and line 6 of page 29.

VI. Grounds of Rejection to be Reviewed on Appeal

A. Whether claims 1-8, 41-46, 51, and 66-82 are unpatentable under 35 U.S.C. § 102(e) based upon U.S. 5,963,939 (“McCann”).

VII. Argument

- A. Claims 1-8, 41-46, 51, and 66-82 are not properly rejected under 35 U.S.C. § 102(e) as anticipated by McCann.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."³⁸ The elements must be arranged as required by the claim.³⁹ When an element is asserted to be inherently present in a cited reference, the examiner must show that "the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art."⁴⁰ Further, when determining whether a claim is anticipated, "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art."⁴¹ When considering those words they must be given their broadest reasonable interpretation, though that interpretation must be "consistent with the interpretation that those skilled in the art would reach."⁴² That interpretation can be derived from a variety of sources, including the claims themselves, the patent's written description, and reference sources such as dictionaries.⁴³ If a claim is rejected based on an interpretation which is inconsistent with the interpretation which would be reached by those skilled in the art, that rejection must be reversed.⁴⁴ Given these standards, the Office's rejections under 35 U.S.C. § 102(e) cannot be sustained and must be reversed for the reasons set forth below.

1. Claims 1-8, 66 and 67

The rejections of the above-referenced claims are improper for at least two reasons. First, the above referenced claims, due to their depending from claim 1, require an output comprising multiple alternative solutions to be generated by an expert system. Second, the above referenced

³⁸ *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

³⁹ *In re Bond*, 910 F.2d 831 (Fed. Cir. 1990).

⁴⁰ *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original).

⁴¹ *In re Miller*, 441 F.2d 689, 694 (C.C.P.A. 1971).

⁴² MANUAL OF PATENT EXAMINING PROCEDURE (MPEP) § 2111 citing *In re Cortright*, 165 F.3d 1353, 1359 (Fed. Cir. 1999).

⁴³ MPEP 2111.01(III) citing *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) and *Brookhill-Wilk I, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294 (Fed. Cir. 2003).

⁴⁴ See, e.g., *In re Buszard*, 504 F.3d 1364 (Fed. Cir. 2007) (reversing a rejection based on the Office's reliance on an incorrect claim interpretation); *In re Cortright*, 165 F.3d 1353 (Fed. Cir. 1999) (same).

claims also require that the multiple alternative solutions be selected by the expert system itself. Neither of those requirements is taught or suggested in McCann. Instead, McCann discloses a system where software gathers information about a user's computing requirements, then suggests a single solution that meets or exceeds those requirements.⁴⁵ Once the system of McCann suggests a solution, the user is provided with a tool – an incremental editor – which can be used by the user to alter the solution presented by the expert system.⁴⁶ When the user has finished making any necessary edits using the incremental editor, the user can print the final solution, save it, order it, or obtain instructions which can be used for installation.⁴⁷ A detailed explanation distinguishing McCann from the above referenced claims, and specifically pointing out errors made by the Office in the pending rejections, is set forth below in sections VII.A.1.a and VII.A.1.b.

a. Distinctions Between Claim 1 and McCann

Claim 1, and the claims which depend therefrom, can be distinguished from McCann based on claim 1's requirement of an output comprising multiple alternative solutions: a recommended solution, a compatible solution, and a not recommended solution. Such an output is simply absent from McCann. Instead, the expert system in McCann generates an output comprising a single recommended solution, not multiple alternative solutions as recited. This can be seen from figure 50 of McCann (reproduced on the following page), which depicts the output of the expert system in that reference.

⁴⁵ McCann, col. 2, ll. 55-59.

⁴⁶ McCann, col. 4, ll. 30-32.

⁴⁷ McCann, col. 65, ll. 52-57.

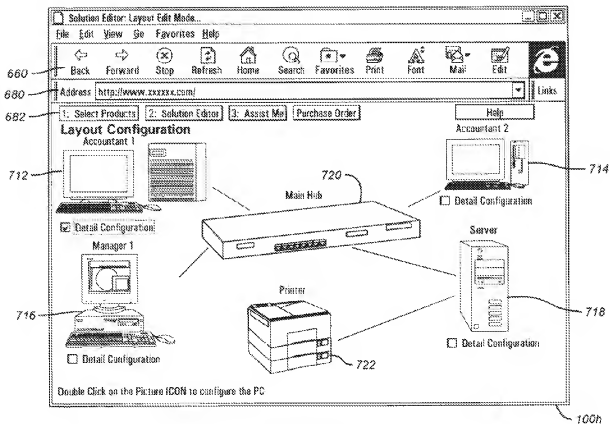


FIG. 50

Figure 50 of McCann: output comprising a single recommended solution.

As can be seen from the above figure, the output of McCann depicts a number of products, and how those products are coupled together.⁴⁸ McCann is explicitly clear that there would never be a time when the expert system would present an output comprising multiple alternative solutions. Even in the case where McCann's expert system is faced with multiple solutions which could potentially be recommended, McCann teaches avoiding the presentation of an output comprising multiple solutions by selecting from the equivalent solutions *at random*.⁴⁹ Given such a disclosure, it would be improper to treat McCann as teaching or suggesting an output comprising multiple alternative solutions as is recited in claim 1. Additionally, even if the individual

⁴⁸ McCann, col. 13, ll. 29-31.

⁴⁹ McCann, col. 63, l. 7 – col. 64, l. 8:

In either case, several possible recommendations are equivalent, and the exemplary embodiment of the present invention must find a different way of determining the appropriate output. In the complete absence of any distinguishing criteria, the exemplary embodiment of the present

products depicted in figure 50 of McCann were considered to be “solutions” the display of McCann still would not teach or suggest the output of claim 1, because the products in that display are complementary components in a single solution, rather than alternatives as recited in the claim. Also, there is no indication anywhere in McCann that either the solution depicted in claim 50 (which is actually described as a “recommended solution”⁵⁰), any of its constituent products, could be considered a “not recommended solution” as recited in claim 1. Accordingly, because McCann teaches an output which includes only one (recommended) solution, and because McCann teaches that it is preferable to present a solution *at random* than to present multiple solutions as recited, the rejection of claim 1, and the rejections of the claims which depend therefrom, should be reversed.

b. Errors in the Position Taken by the Office

In arguing that McCann teaches the limitations of claim 1 discussed above, the Office actually presented four distinct arguments. However, each of those arguments is flawed for mistakenly focusing only on whether McCann teaches a “recommended solution,” a “compatible solution,” and a “not recommended solution.” Those arguments ignore claim 1’s requirements that the solutions be selected by an expert system, and that they be presented as part of an output generated by the expert system. Thus, even assuming that McCann does teach a “recommended solution,” a “compatible solution” and a “not recommended solution,”⁵¹ the arguments provided in support of the rejection of claim 1 are still flawed because they do not even address whether the “recommended solution,” the “compatible solution” and the “not recommended solution” are disclosed in McCann in the same manner as they are arranged in the claim. A discussion of the four specific arguments made by the Office regarding the “compatible” and “not recommended” solutions is set forth below, along with detailed explanations of why those arguments should be rejected.

The Office’s first argument is that the specific solutions recited in claim 1 were “non-

invention **selects randomly** from the among the products and inter-networking topologies that equally and best meet the stated criteria of the user. (emphasis added).

⁵⁰ McCann, col. 5, ll. 63-64 (emphasis added).

⁵¹ The appellants do not concede that these solutions are taught in McCann. Indeed, as set forth in the text, at very least the not recommended solutions as recited in claim 1 is not taught in McCann.

functional descriptive limitations.”⁵² While the Office’s mention of the non-functional descriptive material rule was somewhat cryptic,⁵³ to the extent the Office’s position is that the rule allowed it to ignore the specific solutions recited in claim 1, that position is contrary to law. It is well established that “[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art.” *E.g., In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970). If the Office believes that claim 1 is directed to non-functional descriptive material, then the proper course would have been to reject that claim under 35 U.S.C. § 101, not excise the limitations believed to be descriptive, and then reject the remainder of the claim under 35 U.S.C. § 102. *See, e.g., In re Gulak*, 703 F.2d 1381, 1385 (Fed. Cir. 1983) (“Differences between an invention and the prior art cited against it cannot be ignored merely because those differences reside in the content of the printed matter.”). Accordingly, since the first argument put forth by the Office requires disregarding the words of the claim, and because claim 1 is clearly directed to statutory subject matter (a method), the first argument supplied by the Office cannot be used to support the Office’s rejection of claim 1.

The Office’s second argument is that McCann discloses presenting compatible solutions through its incremental editor. Specifically, the Office stated that

McCann discloses that although 1 recommended solution is displayed to the user the expert system also presents the user with other compatible solutions. That is to say, the user is presented with the incremental editor which allows a user to substitute another product or [sic] slightly higher or lower rank for a product **already defined as part of the solution** (Col. 4, Lines 31-33).⁵⁴

Even assuming that the solutions created using the incremental editor are, in fact, compatible solutions, the Office’s argument ignores claim 1’s requirement that the compatible solution (like the recommended solution) must be selected by the expert system. At most, the Office’s argument shows that a *user* can create a new solution using the incremental editor, not that multiple alternative solutions are selected by the expert system. Further, even ignoring the fact that the “compatible solution” identified by the Office is created by the user, the Office’s

⁵² Final Office Action mailed May 14, 2008 (“Final Office Action”) at 3-4.

⁵³ Indeed, the Final Office Action did include (flawed) arguments regarding the compatible and not recommended solutions, implying that the Office’s denigration of those solutions as “non-functional descriptive limitations” had no substantive effect.

⁵⁴ Final Office Action at 4 (emphasis in original).

argument also fails because it ignores the requirements that the compatible solution must be included in an output with the recommended solution and the not recommended solution, and that the output must be generated by the expert system. As is shown in figure 51 of McCann, even when the incremental editor of McCann is being used, there is not an output comprising multiple alternative solutions. Instead, the system of McCann displays the single solution output of figure 50, partially obscured by the incremental editor window.

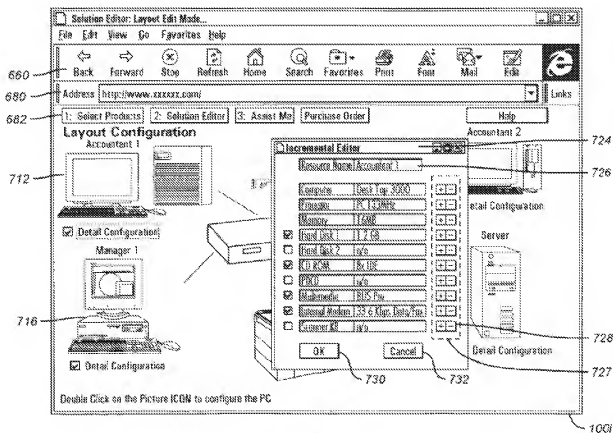


FIG. 51

Accordingly, the Office's second argument also fails to support the rejection of claim 1, both because any new solutions generated by the user with the incremental editor are not selected by the expert system, and because use of the incremental editor does not result in an output comprising multiple alternative solutions.

The Office's third argument is that McCann teaches a "not recommended solution" because "any solution that was not initially presented to the user in Fig. 51 is a 'not

recommended solution.”⁵⁵ This argument must fail because it is inconsistent with the other language in claim 1, and therefore inconsistent with how one of skill in the art would understand a “not recommended solution.” The relevant language of claim 1, found in clause 6, recites “presenting an output comprising a recommended solution, a compatible solution, and a not recommended solution.” Accordingly, one of the requirements is that the “not recommended solution” must be “presented” with the recommended solution in the output. Since the Office concedes that its third argument relies on a definition of “not recommended solution” which is limited to solutions which are not presented with the recommended solution, that third argument cannot be squared with the language of claim 1, and therefore must be rejected.

Finally, the Office’s fourth argument is that McCann teaches presenting alternative solutions to a user because McCann’s system includes print functionality. Specifically, the Office stated that:

A user who prefers to have everything in writing has the option to print out all the solutions that are being presented by the expert system through the user of the incremental editor and can have all the paper copies of each of the solutions presented to the user at the same time. As a result, McCann has presented another alternative to how the solutions are to be presented.⁵⁶

The primary problem with this argument is that it relies on a user performing a cumbersome process that is not, in any event, taught or suggested in McCann. As set forth above, and illustrated in figures 50 and 51 of McCann, the system of McCann never presents an output comprising multiple alternative solutions. Instead, McCann provides an output comprising a single solution, which the user can change using the incremental editor. While McCann does teach that a user can print out the modified solution obtained through the incremental editor,⁵⁷ in order to compare printouts of three solutions such as recited in claim 1, a user of McCann would have to: (1) print out the solution selected by the expert system, (2) modify that solution with the incremental editor to obtain a second solution, (3) print out the second solution, (4) modify the second solution using the incremental editor to obtain a third solution, (5) print out the third solution, and (6) gather the three printouts so that they could be compared with one another at the

⁵⁵ Final Office Action at 4.

⁵⁶ Final Office Action at 5.

same time. This cumbersome print-modify-print-modify-print-compare process is not taught or suggested anywhere in McCann, and appears to have been created in the Final Office Action specifically for the purpose of rejecting claim 1. Since the Final Office Action was mailed in May of 2008, nearly seven years after the filing date of the subject application, the cited print-modify-print-modify-print-compare process is not prior art relative to claim 1, and should not have been used to support the rejection of that claim. Further, even if the print-modify-print-modify-print-compare process were prior art, it still could not be used to support the rejection of claim 1 because claim 1 recites an output comprising multiple alternative solutions where the output is generated by the expert system, while the output of the print-modify-print-modify-print-compare process is unquestionably created by the user. Accordingly, the final argument given in support of the rejection of claim 1, like the other arguments put forth by the Office, overlooks limitations clearly recited in claim 1, and therefore should not be accepted by the Board.

2. Claims 41-45

The rejections of the above referenced claims are improper for at least the reasons given in section VII.A.1.a distinguishing the output of claim 1 from McCann. Claim 41, like claim 1, requires an expert system to generate an output which comprises multiple alternative solutions.⁵⁷ By contrast, McCann does not include an output (whether generated by an expert system or otherwise) which comprises multiple alternative solutions. Instead, McCann provides a single solution to a user, and then lets the user use an incremental editor to modify that (single)

⁵⁷ McCann, col. 65, ll. 57-57 (“Presentation of a solution to the user allows the user to print it, save it, order it, or obtain information for installing it.”).

⁵⁸ Compare claim 41, clause 6:

the expert system generates output comprising a recommended telecommunications solution and a compatible telecommunications solution and presents the output to the live human agent via the graphical user interface, each of the recommended telecommunications solution and a compatible telecommunications solution being an alternative solution selected from the plurality of available telecommunications products within the product database

with claim 1, clause 6:

presenting an output comprising a recommended solution, a compatible solution, and a not recommended solution, wherein each of said recommended solution, said compatible solution and said not recommended solution are alternative solutions selected from the plurality of available telecommunications products by the expert system, and wherein said output is generated by said expert system.

solution. Thus, because claim 41 requires an expert system to generate an output comprising multiple alternative solutions, and such an output is not taught or suggested in McCann, the Office's rejections of claim 41, and the claims which depend therefrom, should be reversed, and those claims should be allowed in their current form.

While claim 41 can be distinguished from McCann on grounds similar to those set forth regarding claim 1, the allowability of claim 41 does not rely on the allowability of claim 1, because claim 41's specific language provides further bases on which the art of record can be distinguished. For example, in rejecting claim 1, the Office stated that a cumbersome print-modify-print-modify-print-compare procedure could be used to show that an output comprising multiple alternative solutions was found in the prior art. While that argument as applied to claim 1 was addressed and refuted in section VII.A.1.b, when applied to claim 41 it is even weaker, because claim 41 recites that the expert system presents the output to a live human agent via a graphical user interface. Thus, while the arguments set forth regarding claim 1 can be applied to distinguish claim 41 from McCann, claim 41 does not stand or fall with claim 1, and should be independently considered on its own merits.

3. Claim 46

The rejection of claim 46 should be reversed because McCann does not teach or suggest a set of instructions executed by processing circuitry which present an output to a live human agent, where the output comprises multiple solutions made up of alternative products. Instead, McCann teaches recommending a single solution, then allowing a user to modify that solution using an incremental editor. While the incremental editor does allow a user to change a solution, and the changed solution would be displayed to the user, it would not be displayed in an output which also comprises the original (pre-incremental editor) solution. Indeed, McCann teaches that where its expert system processing is unable to choose between solutions, a single solution should be picked at random, and that only the single (randomly selected) solution would be presented. Accordingly, the rejection of claim 46 should be reversed, and that claim should be allowed in its current form.

Regarding the position taken by the Office, the Office's treatment of claim 46 is

essentially identical to its treatment of claim 1.⁵⁹ While the appellants note that claim 46 is broader than claim 1 because it does not recite a “compatible solution,” the appellants submit that the arguments set forth in section VII.A.1.b regarding claim 1 can still be applied to claim 46, because claim 46 (like claim 1) requires an output comprising multiple solutions. As set forth previously, the requirement for such an output was overlooked in the Office’s rejection of claim 1, and is also overlooked in the Office’s almost identical rejection of claim 46. Accordingly, the Office’s position regarding claim 46 is flawed for the same reasons given above regarding claim 1.

4. Claim 51

Claim 51 can be distinguished from McCann based on claim 51’s recitation of presenting an output comprising multiple alternative solutions to a live human agent through a graphical user interface. As discussed in section VII.A.1.a regarding claim 1, McCann does not teach or suggest an output comprising multiple alternative solutions. Instead, in McCann, an expert system presents a single recommended solution to a user, and then the user can alter that solution using an incremental editor to create new solutions. At no point during operation of the system of McCann is there any output which comprises more than one solution. Accordingly, the arguments set forth regarding the multiple alternative solutions of claim 1 can also be applied to claim 51 to explain why that claim is patentable over McCann. Further, while the arguments set forth regarding claim 1 can be used to establish the patentability of claim 51 relative to McCann, the allowability of claim 51 does not rely on the allowability of claim 1. For example, claim 51, like claim 41, requires presenting output to a live agent via a graphical user interface, limitations not found in claim 1. Similarly, claim 51 recites that the alternative solutions in the output have different ratings, with the recommended solution having a higher rating than the compatible solution, limitations also not explicitly recited in claim 1. As set forth above, in McCann, even when different solutions have the same rating, they would never be presented in the same

⁵⁹ Compare, e.g., Final Office Action at 10-11 (discussing the print-modify-print-modify-print-compare) procedure in the context of claim 46 with Final Office Action at 5 (discussing the print-modify-print-modify-print-compare) procedure in the context of claim 1.

output.⁶⁰ Accordingly, the rejection of claim 51 should be reversed, and that claim should be allowed in its current form, both for the reasons set forth regarding claim 1, and because of the unique limitations of claim 51.

5. Claims 68-82

Claim 68, and the claims which depend therefrom, can be distinguished from McCann because of claim 68's requirement of an expert system producing a recommended solution, a compatible solution, and a not recommended solution based on customer need information processed by the expert system. In McCann, the expert system produces only a single solution based on the customer need information it processes – the recommended solution displayed in an output such as shown in figure 50. Subsequently, the user could then modify that solution, for example, by replacing a product in that solution with a product having slightly different characteristics, using McCann's incremental editor. However, this is not a solution produced by the expert system based on the information it processed, as recited in claim 68. Instead, as discussed previously, any new solutions created using the incremental editor are created by the user, based on the user's own preferences that were not adequately reflected in the recommended solution produced by the expert system. Accordingly, because claim 68 requires production of multiple alternative solutions (including a not recommended solution and a compatible solution) by the expert system, the rejections of claim 68, and the claims which depend therefrom, should be reversed, and those claims should be allowed.

Regarding the position taken by the Office, on pages 13-15 of the Final Office Action, the Office set forth the exact same arguments in support of its rejection of claim 68 that were discussed in section VII.A.1.b with respect to claim 1. While the appellants note that claim 68 does not include the same language as claim 1, the appellants assert that the argument set forth in section VII.A.1.b regarding claim 1 can still be applied by analogy to claim 68. The reason for this is that the language in claim 68 requiring the expert system to produce multiple alternative solutions based on the information it processed is similar in significance to the language discussed in section VII.A.1.b regarding the expert system selecting the solutions, and generating

⁶⁰ See, section VII.A.1.a, *supra* (discussing McCann's teaching of random selection from among equivalent

an output. For example, when addressing the print-modify-print-modify-print-compare process, section VII.A.1.b explained that that process was different from claim 1 because the output of that process was not generated by the expert system. By analogy, the print-modify-print-modify-print-compare process does not teach or suggest the alternative solutions of claim 68, because the alternative solutions in claim 68 are created by the user using the incremental editor, not by the expert system based on information the expert system had processed. Accordingly, the appellants submit that the arguments presented in support of the rejection of claim 68 are flawed for at least the same reasons as set forth previously regarding claim 1, and therefore should not be accepted by the Board.

VIII. CLAIMS APPENDIX

1. A method for recommending a product using a computer implemented expert system, the method comprising:
 - utilizing the expert system to determine problem domain information via interaction between a live human agent and a customer;
 - utilizing the expert system to determine need information of the customer via interaction between the live human agent and the customer, wherein the need information relates to telecommunications needs of the customer;
 - inputting the customer need information into the expert system, wherein the act of inputting the customer need information into the expert system is performed by the live human agent;
 - transforming the customer need information into a trait, the trait being characteristic of a telecommunications product of relevance to the customer, the telecommunications product of relevance being selected from a plurality of available telecommunications products;
 - calculating a rating of at least three telecommunications products within the plurality of available telecommunications products, wherein the act of calculating the ratings is performed by the expert system; and
 - presenting an output comprising a recommended solution, a compatible solution, and a not recommended solution, wherein each of said recommended solution, said compatible solution and said not recommended solution are alternative solutions selected from the plurality of available telecommunications products by the expert system, and wherein said output is generated by said expert system.
2. The method of claim 1, wherein utilizing the expert system to determine the need information of the customer comprises asking questions provided by the expert system

and inputting the customer need information into the expert system via a graphical user interface serviced by an agent computer.

3. The method of claim 1, further comprising:
 - summarizing the ratings of the plurality of available telecommunications products; and
 - providing explanation of the ratings of the plurality of available telecommunications products.
4. The method of claim 3, wherein the summary of the ratings of the plurality of available telecommunications products comprises at least one of the recommended solution, the compatible solution, and the not recommended solution.
5. The method of claim 1, wherein the plurality of available telecommunications products comprises a service.
6. The method of claim 1, further comprising communicating the rating from the live human agent to the customer; and
 - wherein the calculating the rating of the at least three telecommunications products within the plurality of available telecommunications products is performed in real time.
7. The method of claim 1, wherein the expert system employs a fuzzy value in calculating the rating of the at least three telecommunications products.
8. The method of claim 1, wherein the expert system employs a crisp value in calculating the rating of the at least three telecommunications products.
- 9 - 40. (canceled)

41. An expert system that is operable for recommending a product, the expert system comprising:

a computer network;

a live human agent interface, communicatively coupled to the computer network, comprising a graphical user interface;

a product database, communicatively coupled to the computer network, that contains a plurality of available telecommunications products, the product database being communicatively coupled to a plurality of providers of the plurality of available telecommunications products thereby allowing updating of the product database in real time; and

an expert system, communicatively coupled to the computer network, that is operable to rate at least two available telecommunications products within the plurality of available telecommunications products using dynamic calculation and based on a customer need;

wherein the expert system comprises computer executable instructions which allow a live human agent to perform selection of an available telecommunications product from the product database based on the rating of the at least two available telecommunications products during an interaction with a customer;

wherein the expert system generates output comprising a recommended telecommunications solution and a compatible telecommunications solution and presents the output to the live human agent via the graphical user interface, each of the recommended telecommunications solution and a compatible telecommunications solution being an alternative solution selected from the plurality of available telecommunications products within the product database, the recommended telecommunications solution having a rating that is higher than the rating of the compatible telecommunications solution; and

wherein the recommended telecommunications solution and the compatible telecommunications solution are communicated to the customer in real time after the expert system generates the output.

42. The expert system of claim 41, wherein at least one of the recommended solution and the compatible solution comprises at least one of a data network solution and an Internet access solution.
43. The expert system of claim 41, wherein the output further comprises an explanation for why the recommended solution was selected by the expert system.
44. The expert system of claim 41, wherein the expert system employs at least one of a dedicated Internet access guidance engine and a data network guidance engine to rate the at least two available products within the plurality of available products.
45. The expert system of claim 41, wherein the graphical user interface is operable to present information concerning at least one of the available products within the plurality of available products to the live human agent.
46. A plurality of software instructions stored on a media that, upon execution by a processing circuitry, are operable to recommend a product by using an expert system, comprising:
 - a set of instructions executed by the processing circuitry that determines problem domain information during an interaction between a live human agent and a customer, wherein the problem domain relates to a telecommunications network configuration;
 - a set of instructions executed by the processing circuitry that determines need information of the customer during the interaction between the live human agent and the customer, wherein the need information relates to a telecommunications network configuration;

a set of instructions executed by the processing circuitry that inputs the customer need information into the expert system;

a set of instructions executed by the processing circuitry that transforms the customer need information into a trait, the trait being characteristic of a product of relevance to the customer as determined using expert system processing that is performed by the expert system, the product of relevance being selected from a plurality of available products;

a set of instructions executed by the processing circuitry that rates a product within the plurality of available products using the expert system, wherein the product comprises a telecommunications network configuration; and

a set of instructions executed by the processing circuitry that presents an output to the live human agent, said output comprising a recommended solution, and a not-recommended solution, wherein the recommended solution and the not-recommended solution comprise alternative products selected from the plurality of available products.

47 - 50. (canceled)

51. A plurality of software instructions stored on a media that, upon execution by a processing circuitry, are operable to recommend a telecommunications network configuration, comprising:

a set of instructions executed by the processing circuitry that performs expert system processing to rate at least two available products within a plurality of available products using dynamic calculation and based on a customer need, wherein the products comprise a telecommunications network configuration;

a set of instructions executed by the processing circuitry that enable a live human agent to respond to a communication of a customer need by accessing the functionality of the expert system processing via the graphical user interface to perform selection of an

available product from the product database based on the rating of the at least two available products in real time during an interaction with a customer;

a set of instructions executed by the processing circuitry that generates output comprising a recommended solution and a compatible solution and presents the output to the live human agent via the graphical user interface, each of the recommended solution and a compatible solution being an alternative solution selected from the plurality of available products within the product database, the recommended solution having a rating that is higher than the rating of the compatible solution; and

a set of instructions executed by the processing circuitry that prompts the live human agent with the recommended solution comprising a network configuration and the compatible solution to be communicated to the customer in real time.

52 - 65. (canceled)

66. The method of claim 1, wherein the plurality of available telecommunications products comprises a plurality of telecommunications network configurations.

67. The method of claim 66, wherein the rated telecommunications product comprises a telecommunications network product comprises a telecommunications network configuration.

68. A method for providing a network configuration solution to a customer, the method comprising:

utilizing an expert system to obtain information from a customer regarding product needs of the customer via interaction between a live human agent and the customer;

presenting an interface allowing the live human agent to enter the information into a computer system, wherein the computer system comprises the expert system;

processing the information, wherein the act of processing is performed by

the expert system within the computer system;

producing at least three product solutions, wherein the at least three product solutions are produced by the expert system within the computer system, wherein the act of producing at least three product solutions is performed in accordance with the entered and processed information, wherein said at least three product solutions comprise a recommended solution, a compatible solution, and a not recommended solution, and wherein said recommended solution, said compatible solution, and said not recommended solution comprise alternative solutions;

presenting the at least three product solutions to the live human agent, wherein the act of presenting the at least three product solutions to the live human agent is performed by the computer system; and

presenting at least a portion of the at least three product solutions produced by the expert system to the customer, wherein the act of presenting at least a portion of the at least one product solution to the customer is performed by the live human agent.

69. The method of claim 68, wherein the act of processing comprises using fuzzy logic to produce at least one product solution.
70. The method of claim 68, wherein the act of processing comprises using heuristics to produce at least one product solution.
71. The method of claim 68, further comprising presenting a plurality of product solutions to the customer.
72. The method of claim 70, wherein each product solution of the plurality of product solutions is qualified by a ranking selected from a plurality of rankings.
73. The method of claim 72, wherein the plurality of rankings comprise recommended,

compatible, and not recommended.

74. The method of claim 72, further comprising providing a script to the live human agent, wherein the act of providing a script is performed by the expert system via the computer system.
75. The method of claim 74, wherein the provided script relates to the act of obtaining information from the customer.
76. The method of claim 75, wherein the script comprises one or more questions for the live human agent to ask the customer.
77. The method of claim 68, wherein the customer has no direct interaction with the expert system.
78. The method of claim 68, wherein the needs of the customer comprise telecommunications needs.
79. The method of claim 68, wherein the at least three product solutions comprises a telecommunications network configuration solution.
80. The method of claim 68, wherein at least a portion of the needs of the customer are represented as data points.
81. The method of claim 80, wherein the at least a portion of the needs of the customer are represented as data points by the live human agent during the act of entering the information into the computer system.
82. The method of claim 80, wherein the at least a portion of the needs of the customer are

represented as data points by the expert system during the act of processing the information.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.

XI. CONCLUSION

In light of the foregoing, The appellants request that each of the pending rejections be reversed, and that the pending claims be allowed in their present form.

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